

ITEM: 7

SUBJECT: University of California, Center for Aquatic Biology and Aquaculture (CABA)
Yolo and Solano Counties

BOARD ACTION: *Consideration of NPDES Permit Renewal*

BACKGROUND: The University of California (Discharger) owns and operates two fish research facilities that comprise the Center for Aquatic Biology and Aquaculture (CABA) facility. The CABA facility is not a commercial hatchery and does not release fish into the environment. The Aquaculture and Fisheries Program at the University of California, Davis, conducts research focused in toxicology, nutrition, stress, genetics, general and physiology ecology, engineering, endocrinology, infectious diseases, and reproduction. Public agencies and other environmental protection parties use results from this research. Wastewater from the CABA facility is discharged at two discharge points along Putah Creek.

Existing Order No. 99-017 currently regulates the total discharge of 2.88 million gallons per day (mgd) of effluent from the CABA facility. The Discharger pretreats its groundwater and surface water supply prior to use in the fish research facility. After use, the wastewater is chlorinated and discharged to ponds prior to discharge to Putah Creek. A portion of the effluent from the facility is routed to a series of ponds and wetlands that do not discharge to surface water.

Existing Order No. 99-017 required the Discharger to conduct USEPA priority pollutant monitoring, however, the Discharger has failed to do so.

The proposed Order does not allow an increase in discharge from the CABA facility and contains a significant number of new effluent limitations for constituents that the Discharger may potentially use in existing and future research projects. The proposed Monitoring and Reporting Program (MRP) increases the required monitoring and reporting, and requires the monitoring and reporting of priority pollutants in the effluent that could potentially affect the receiving waters. The proposed Order also allows the use of effluent for irrigation of adjacent agricultural land owned by the Discharger. There is no change to the operation or flow of the CABA facility and the Discharger will be able to comply with the new limitations. Therefore, time schedules to provide time for the Discharger to comply with the new limitations are not included in the proposed Order.

To be consistent with the Regional Water Board's direction regarding salinity in surface waters that drain into the Delta, the proposed Order includes an effluent limitation for EC that maintains the discharge of salinity into Putah Creek from this facility at its current level. The proposed Order also requires the Discharger to conduct a Salinity Minimization Study as part of the required Best Management Practices Plan, and implement feasible measures that may reduce the amount of salinity discharged into Putah Creek from the CABA facility.

ISSUES: **Effluent Constituents Monitoring:** The Discharger states that the number of parameters to be monitored for, and the frequency of monitoring required, have increased dramatically from the existing Order No. 99-017. In addition, the Discharger states that operations at the CABA facility have not changed since the last permit was adopted. Staff concurs that the proposed MRP increase the

amount of constituent monitoring for the CABA facility. The facility is a research laboratory that uses chemicals and aquacultural drugs that may pose threat to the beneficial uses of the receiving water. Staff is proposing monitoring that is necessary to determine the Discharger's compliance with the effluent limitations established to protect the beneficial uses of Putah Creek and the groundwater.

Groundwater Monitoring: The Discharger is contesting the amount of monitoring required in the proposed Order. The Discharger states that the operating budget for the CABA facility is highly dependent on grant funds and the facilities operating budget cannot support the cost of the additional monitoring required in the renewed NPDES permit.

In contrast, the California Sportfishing Alliance (CSPA) is stating that the proposed Order fails to require adequate monitoring of discharges to the unlined ponds and wetlands, and the proposed Orders fail to be protective of groundwater and to comply with the State's antidegradation policy.

Staff has taken the Discharger's concern regarding monitoring costs in account and is proposing the necessary monitoring to provide the compliance information necessary to enforce the proposed Order. Staff concurs with constituents identified by CSPA that were missing in the proposed groundwater monitoring. The proposed MRP has been modified to include additional constituents to be monitored in the groundwater.

Salinity: The Discharger is contesting the proposed monthly average EC limitation of 700 umhos/cm stating that nearby dischargers are granted higher EC effluent limitations. The Discharger is requesting a monthly average EC limitation of 1000 umhos/cm. The Discharger submitted effluent EC data that demonstrates they can comply with a monthly average EC limitation of 800 umhos/cm. Staff has modified the proposed Order to include a monthly average EC limitation of 800 umhos/cm that addresses the Agricultural Water Quality goals for Putah Creek and holds the Discharger to its current level of EC in its discharge. The proposed Order contains a reopener provision allowing the Regional Water Board to revise the EC effluent limitation if further information from the required monitoring or other salinity study efforts indicates that a revised limitation is necessary to protect the beneficial uses of the receiving waters.

Submission of Required CTR Data: CSPA states that the Discharger did not submit a complete Report of Waste Discharge. The RWD submitted by the Discharger provided enough information for staff to develop the proposed Order. The Discharger has not complied with the 2002 California Water Code Section 13267 Order and existing WDR Order No 99-017 requirements to monitor for California Toxic Rule constituents. The proposed Order requires the Discharger to conduct this required effluent monitoring.

Discharge to Low Flow Streams: CSPA states that the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) prohibits the discharge of wastewater to low flow streams as a permanent means of disposal and requires the evaluation of land disposal alternatives. The Basin Plan does not explicitly prohibit the discharge of wastewater to low flow streams as a means of disposal. The Discharger has evaluated and requests to implement the use of treated wastewater from the CABA facility for use as

irrigation water for adjacent University-owned agricultural lands. The proposed Order allows the use of treated wastewater from the Aquatic Center for use as irrigation water on an “as needed” basis.

Acute and Chronic Toxicity: CSPA states that the proposed Order contains an Effluent Limitation for acute toxicity that allows mortality that exceeds the Basin Plan water quality objective and does not comply with Federal regulations. CSPA also states that the proposed Order does not contain Effluent Limitations for chronic toxicity and therefore does not comply with Federal regulations.

The proposed Order includes end-of-pipe effluent limitations for all toxic pollutants that have reasonable potential to cause or contribute to an exceedence of water quality objectives in the receiving water. Where appropriate, the development of effluent limitations are based on aquatic life toxicity criteria. The proposed Order also require whole effluent chronic toxicity testing, which identifies both acute and chronic effluent toxicity from the synergistic effects that can occur in mixtures of pollutants with each other, when mixed with receiving water, or for toxic constituents in which no criteria is established. The proposed WDR Order additionally requires that the Discharger establish and implement a best management practice plan for compliance with the Basin Plan’s narrative toxicity objective, as allowed under 40 C.F.R. 122.44(k).

Since the toxicity control provisions in the SIP are under revision it is not appropriate to develop numeric effluent limitations for chronic toxicity.

Designation of Waters of the State: CSPA states the wetlands that receive effluent from the CABA facility are Waters of the State and the proposed Permit is not sufficient to assure compliance with the applicable requirements of the Clean Water Act. The wetlands that receive wastewater from the facility were established by the University as part of the wastewater treatment process and for experimental and academic training purposes. Therefore, staff considers the wetlands as part of the treatment process and not as a Water of the State.

Oxytetracycline Limitation: CSPA states that the proposed Order should have an effluent limitation for Oxytetracycline. Staff evaluated the Discharger’s data and concludes that the estimated maximum discharge concentration of 2.0 mg/L from the food treatment at the CABA facility is less than the lowest criteria used by the California Department of Fish and Game for other fishery facilities. Therefore, reasonable potential does not exist for Oxytetracycline. The proposed Order includes a Reopener that states that if additional information becomes available, the Regional Water Board will re-evaluate whether discharge from the CABA facility may cause, have the reasonable potential to cause, or contribute to an excursion of Basin Plan objectives for toxicity, and numeric effluent limitations may be added.

Pond Design for 100 Year Storm Event: CSPA states that the Discharge Specifications/Pond Disposal Limitations Section of the proposed Permit fails to specify the “design seasonal precipitation” as 100 year. The ponds that receive wastewater from the CABA facility are existing ponds. The proposed Order includes the requirement of a minimum one-foot of freeboard to be maintained in the ponds at all times to prevent overflows. Additionally, there is also the requirement that there be no discharge of wastewater to surface waters from the percolation pond for the Putah Creek Research Facility. Staff has determined

that these Order requirements are protective and adequate to prevent overflows.

Formaldehyde Limitation: CSPA states that the effluent limitation for formaldehyde is not protective of the beneficial uses of the receiving stream and is in excess of the Basin Plan chemical constituents water quality objective in violation of Federal Regulation 40 CFR 122.44.

Staff determined that a reasonable potential exists for formaldehyde to be discharged at levels that cause or have the reasonable potential to cause, or contribute to an excursion of the narrative water quality objective for toxicity in the Basin Plan. Accordingly, the proposed Order includes water quality-based effluent limitations for formaldehyde based on Basin Plan narrative toxicity objectives. The proposed instantaneous maximum effluent limitation was established based on actual toxicity testing performed by the California DFG.

The taste and odor threshold for formaldehyde has been established as a proposed monthly average effluent limitation based on the Basin Plan's chemical constituents objective. Staff believes these limitations will protect the beneficial uses of the receiving water by meeting the water quality objectives based on both human health and aquatic life.

Mgmt. Review_____

Legal Review_____

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

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